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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/224,477	12/31/1998	ROBERT C. DIXON	239/104	3646

22249 7590 01/28/2003

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EXAMINER

MOORE, JAMES K

ART UNIT

PAPER NUMBER

2682

DATE MAILED: 01/28/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/224,477

Applicant(s)

DIXON, ROBERT C.

Examiner

James K Moore

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 January 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 17-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 17-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 December 1998 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____ 6) ☐ Other: _____

DETAILED ACTION

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s): a base station transmitting over a first frequency and user stations transmitting over a second frequency different from the first frequency. No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 18, 20, and 21 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claims 18 and 21, the applicant describes two embodiments of his invention, (1) and (2) on pages 10 and 11, which comprise a base station transmitting

over a first frequency and user stations communicating over a second frequency different than the first frequency. The applicant also describes a third embodiment (3) on page 11 which comprises a base station communicating with the user stations using time division duplexing. However, in this embodiment, the base station and the user stations use a single frequency. Thus, the specification does not provide support for a single embodiment of the invention in which the base station and user stations transmit using two different frequencies and the base station communicates with the user stations using time division duplexing.

Regarding claim 20, the specification does not provide adequate support for the limitation "wherein said user stations in said first cell are assigned a second set of one or more distinct spreading codes".

Claim Rejections - 35 USC § 102

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

5. Claims 17, 19, and 20 are rejected under 35 U.S.C. 102(b) as being anticipated by Schmidt.

Regarding claim 17, Schmidt discloses a multiple user wireless communication system comprising a plurality of cells. A base station is located in each cell. Transmitters in a first cell (at the base station) are assigned a first code for modulating radio communication in the first cell. Radio signals used in the first cell are spread

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across a bandwidth, and receivers in a second cell adjacent to the first cell may distinguish communication which originates in the first cell from communication which originates in the second cell (based on the use of different codes). The first cell is not adjacent to any other cell using the first code. The base station transmits over a first frequency (a broadband) and user stations in communication with the base station transmit over a second frequency (narrow bands) different from the first frequency).

See col. 2, lines 26-35 and col. 3, lines 1-8.

Regarding claim 19, Schmidt discloses a wireless communication system comprising a plurality of cells, a base station, and a plurality of user stations. The base station is assigned a first transmission frequency (a broadband) for transmitting to a first cell. The first transmission frequency is not assigned to any base station for transmitting to any cell adjacent the first cell. The user stations in the first cell are assigned a second transmission frequency (narrow band). The second transmission frequency is not assigned to any user stations in any cell adjacent the first cell. The base station and the user stations in the first cell are assigned distinct codes for modulating radio communication for the first cell. See col. 2, line 26 through col. 3, line 8.

Regarding claim 20, Schmidt discloses all of the limitations of claim 19, and also discloses that the base station is assigned a set of distinct spreading codes for communicating with user stations in the first cell, and that the set of spreading codes is not assigned to any base station for communicating in any cell adjacent the first cell.

See col. 2, lines 26-35.

Claim Rejections - 35 USC § 103

6. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

7. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Schmidt in view of well known prior art.

Regarding claims 18 and 21, Schmidt discloses all of the limitations of claims 17 and 19, but does not disclose that the base station communicates with the user stations using time division duplexing. However, the examiner takes official notice that it is well known in the art that time division duplexing allows a transmit channel and a receive channel to be use a common frequency band, thereby conserving bandwidth and increasing user capacity. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Schmidt, such that the base station communicates with the user stations using time division duplexing, in order to increase the user capacity of the wireless system.

Response to Arguments

8. Applicant's arguments filed January 2, 2003 have been fully considered but they are not persuasive.

On page 2 of the arguments, the applicant traverses the examiner's objection to the drawings. The applicant asserts that Figure 3 shows a base station 204 transmitting

over a first frequency and user stations 202 transmitting over a second frequency. The examiner disagrees with this assertion since Figure 3 does not even show a user station, let alone any indication of its frequency. Figure 3 also does not **show** a first cell using a first code not adjacent to any other cell using the first code, as claimed in claim 17. The only figure which shows this feature is Figure 1. Therefore, the objection to the drawings stands.

On page 3 of the arguments, the applicant traverses the examiner's 112, 1st paragraph rejection of claim 18 and requests a legal basis for this rejection. Under *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991), to satisfy the written description requirement, an applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention, and that the invention, in that context, is whatever is now claimed. There is no suggestion in the specification, as originally filed, of a system in which the base station and user stations transmit using two different frequencies and the base station communicates with the user stations using time division duplexing. Therefore, the applicant has not conveyed with reasonable clarity that he was in possession of this invention as of the filing date.

The applicant also cites page 10, line 1 of the specification, which states that "In a preferred embodiment, time division is also used", in order to overcome this rejection. However, this statement is not persuasive because two sentences later the specification specifically states that "Multiple transmitters may thus all use the same code and **the same frequency**".

In regards to the examiner's 112, 1st paragraph rejection of claim 20, the applicant cites page 7, lines 8-10 of the specification as allegedly providing support for this claim. This sentence states that "Alternatively, each base station 204 and each user station 202 may be assigned a separate code, which may then be used to identify that station". This does not provide support for the claimed limitation "wherein said user stations in said first cell are assigned a second set of one or more distinct spreading codes, said second set of one or more distinct spreading codes not assigned to any user stations in any cell in said plurality of cells adjacent said first cell."

On page 4 of the arguments, applicant states that in establishing a disclosure, applicant may rely not only on the description and drawings as filed but also on the original claims if their content justifies it. The examiner agrees. The claims in question were present in the present application as filed on December 31, 1998. However, this application is a continuation application which claims the benefit of the filing date of the parent application, 07/682,050, which was filed on April 8, 1991, and the claims in question were not present in that application. If, however, the present application was filed as a continuation-in-part (CIP), then the applicant could have added matter not disclosed in that earlier application. See MPEP 201.08.

Regarding claim 17, the applicant asserts that Schmidt does not teach that "radio signals used in said first cell are spread across a bandwidth sufficiently wide that receivers in a second cell, said second cell being adjacent to said first cell, may distinguish communication which originates in said first cell from communication which originates in said second cell." However, this argument is not persuasive. Schmidt

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discloses in col. 1, lines 15-18 that the signals in a cell are "spread by bandsread modulation". Schmidt also discloses that message channels are separated in adjacent base stations by using different sets of code words. See col. 2, lines 26-32. Because adjacent cells use different sets of code words, it is inherent that receivers in a cell may distinguish communication which originates in the cell from communication which originates in an adjacent cell. The bandwidth across which the signals in the first cell are spread are sufficiently wide since the communication from the first cell may be distinguished from the communication from the second cell.

Further regarding claim 17, the applicant argues that Schmidt does not teach that the base station is assigned a first frequency and that user stations are assigned a second frequency. However, the examiner once again refers the applicant to col. 3, lines 1-8, where Schmidt discloses that the base station transmits in a broadband and the user stations transmit in a narrowband. The narrowband frequency band is different than the broadband frequency band because it is a narrower band of frequencies.

In regards to claim 20, the applicant states that Schmidt is silent on the spreading codes assigned to adjacent cells. The examiner refers applicant to col. 2, lines 26-32, where Schmidt states that the message channels for adjacent base stations are separated by using different sets of code words.

In regards to claims 18 and 21, the applicants traverses the examiner's taking of Official Notice that "it is well known in the art that time division duplexing allows a transmit channel and a receive channel to use a common frequency band, thereby conserving bandwidth and increasing user capacity" and has requested the examiner to

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provide a reference to support this assertion. Therefore, applicant is directed to col. 1, lines 42-45 of Breeden et al. (U.S. Patent No. 5,203,013), which states that "TDD optimizes the use of the available radio frequency spectrum by allowing transmission of voice and data in both directions between the Telepoint [base station] and the portable radio telephone".

Conclusion

9. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken Moore, whose telephone number is (703) 308-6042. The examiner can normally be reached on Monday-Friday from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached at (703) 308-6739.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ken Moore

1/15/03

JKM

Nguyen Vo
1/24/03

NGUYENT.VO
PRIMARY EXAMINER